

Applicant(s): Alan P. Cavallerano et al.  
Serial No.: 09/882,082  
Filed: June 15, 2001  
For: A METHOD AND DEVICE FOR DETECTING AN EVENT IN A PROGRAM OF A VIDEO AND/OR AUDIO  
SIGNAL AND FOR PROVIDING THE PROGRAM TO A DISPLAY UPON DETECTION OF THE EVENT  
Art Unit: 2656  
Examiner: Sajous, Wesner

Attorney Docket No.: PHA 23,534A

**IN THE CLAIMS:**

Please consider the following claims:

1. (Previously Presented) A device for receiving a video and/or audio signal comprising a plurality of different programs, comprising:
  - an input that receives the video and/or audio signal;
  - a user interface that receives a user input identifying an event to be detected;
  - a detector that analyzes the video and/or audio signal of at least one program to detect the identified event in the program; and
  - a selector for automatically, upon detection of the identified event, providing to a display the program containing the event.
2. (Currently Amended) The device as claimed in claim ~~2~~ 1, further including a picture-in-picture (PIP) device which automatically displays in a PIP the program having the detected event.
3. (Previously Presented) A device for receiving a video and/or audio signal comprising a plurality of different programs, comprising:
  - an input that receives the video and/or audio signal;
  - a user interface that receives a user input identifying an audio event to be detected;
  - a speech-recognition device that analyzes the audio signal of at least one program to detect the identified audio event in the program; and

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a selector for automatically, upon detection of the identified event, providing to a display the program containing the event.

4. (Original) The device as claimed in claim 1, wherein the detector is a text recognition device which scans the video information for text, and wherein the user interface includes a device which enables the user to enter as the event to be detected specific text.

5. (Previously Presented) A device for receiving a video and/or audio signal comprising a plurality of different programs, comprising:

an input that receives the video and/or audio signal;

a user interface that receives a user input identifying a shape to be detected wherein the user interface includes a device which enables the user to enter, as the event to be detected, shape inputs;

a shape-detector device that analyzes the video signal of at least one program to detect the identified shape in the program; and

a selector for automatically, upon detection of the identified shape, providing to a display the program containing the shape.

6. (Original) The device as claimed in claim 5 wherein the shape detector analyzes MPG-4 video information.

7. (Previously Presented) A device for receiving a video and/or audio signal comprising a plurality of different programs, comprising:

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an input that receives the video and/or audio signal;

a user interface that receives a user input identifying an event to be detected;

a detector that analyzes the video and/or audio signal of at least one program to detect the identified event in the program;

a selector for automatically, upon detection of the identified event, providing to a display the program containing the event; and

a memory for storing a particular length of audio and/or video information such that the program containing the identified event is delayed when supplied to the display upon detection of the event.

8. (Previously Presented) A method of receiving a video and/or audio signal comprising a plurality of different programs, comprising the steps of:

receiving the video and/or audio signal;

receiving a user input identifying an event to be detected;

analyzing the video and/or audio signal of at least one program to detect the identified event in the program; and

providing to a display the program containing the identified event upon detection of the event.

9. (Previously Presented) The method as claimed in claim 8, wherein the step of providing provides to a picture-in-picture (PIP) display the program containing the event.

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10. (Original) The method as claimed in claim 8, wherein the step of analyzing performs text recognition and scans the video signal for text, and wherein the step of receiving a user input receives text to be detected.

11. (Previously Presented) A method of receiving a video and/or audio signal comprising a plurality of different programs, comprising the steps of:

receiving the video and/or audio signal;

receiving a user input identifying a shape to be detected;

analyzing the video signal of at least one program by performing shape recognition to detect the identified shape in the program; and

providing to a display the program containing the identified shape upon detection of the shape.

12. (Original) The method as claimed in claim 11, wherein the user input is correlated to a particular DCT coefficient pattern and the step of receiving the video receives MPEG-4 video in the form of DCT coefficient patterns and the step of analyzing analyzes the DCT coefficient patterns of the MPEG-4 video to detect the particular DCT coefficient pattern.

13. (Previously Presented) Computer-executable process steps to detect an event in a video and/or audio signal comprising a plurality of different programs, the computer-executable process steps being stored on a computer-readable medium and comprising:

a receiving step to receive user input identifying an event;

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a detecting step to detect in at least one program the identified event; and  
an outputting step to automatically output to a display upon detection of the event the program containing the identified event.

14. (Previously Presented) Computer-executable process steps to detect an event in a video and/or audio signal comprising a plurality of different programs, the computer-executable process steps being stored on a computer-readable medium and comprising:

a receiving step to receive user input selecting an audio event;  
a speech recognition step to detect in at least one program the audio event that has been selected by a user; and  
an outputting step to automatically output to a display upon detection of the event the program containing the selected audio event.

15. (Previously Presented) The computer-executable process steps as claimed in claim 14, further including a text-recognition step to detect text within the video signal of the at least one program.

16. (Previously Presented) Computer-executable process steps to detect an event in a video and/or audio signal comprising a plurality of different programs, the computer-executable process steps being stored on a computer-readable medium and comprising:

a receiving step to receive user input selecting shape;

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a shape detecting step to detect in at least one program a shape that has been selected by a user; and

an outputting step to automatically output to a display upon detection of the event the program containing the selected shape.

17. (Original) The computer-executable process steps as claimed in claim 16, wherein the shape detecting step includes MPEG-4 analysis step for analyzing patterns of DCT coefficients to detect a particular shape in the video stream of the at least one program by detecting a particular DCT coefficient pattern on MPEG-4 video signal.

18. (Original) The computer-executable process steps as claimed in claim 17 wherein the analysis step includes a comparison step for comparing a user selected shape retrieved from a template of shapes defined as patterns of DCT coefficients with the patterns of DCT coefficients received in the MPEG-4 video signal.

19. *(Previously Cancelled).*

20. *(Previously Cancelled).*

21. (Original) Computer-executable process steps stored on a computer readable medium, the computer-executable process steps to detect an audio event in an audio signal including audio information for at least one video program, the computer-executable process steps comprising:

a first receiving step to receive a video signal comprising the plurality of video programs;

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a second receiving step to receive the audio signal;  
a decoding step to decode the video and audio signals;  
a third receiving step to receive an input from a user defining an audio event to be detected in the decoded audio signal;  
a detecting step to detect, using speech recognition steps, the user defined audio event;  
and  
a providing step to provide to a display a program having the detected event so that the display of the program captures the event.

22. (Original) Computer-executable process steps stored on a computer readable medium, the computer-executable process steps to detect text within a video signal including a plurality of programs, the computer-executable process steps, comprising:

a first receiving step to receive the video signal;  
a decoding step to decode the video signal;  
a second receiving step to receive an input from a user defining text to be detected in at least one program of the video signal;  
a detecting step to detect, using text recognition steps, the user defined text in the at least one program of the video signal; and  
a providing step to provide to a display the program having the detected text.